

## **STCG Subcon Subgroup Meeting Minutes**

November 15, 2000

### **Introductions/Announcements (Arlene Tortoso)**

Arlene opened the meeting and introductions were made around the room for the benefit of Dirk Dunning, who was calling in from Salem, Oregon. Arnold Gritzke, the DOE-HQ EM-50 liaison, was present at the meeting and was introduced by DOE-RL/STP staff.

The EMSP proposal review process is planned for November 28-30. The proposals address DNAPLs and tank farm vadose zone needs.

Jim Hanson is attending the TIE conference and will provide an update at the next meeting.

MSE was at Hanford last week regarding a three-year statement of work for the 200-West Area uranium problems in the groundwater and the vadose zone. They will be looking at the physical and chemical behavior of uranium in that area. The 300-Area is doing similar work on uranium problems, and Arlene wants to tie these actions together and establish communications.

Gordon Rogers thanked BHI for providing some nice posters for the last HAB meeting. He thinks the HAB needs more information on Hanford S&T activities.

Scott Petersen reported that the NETL solicitation has been delayed. Proposals will now be reviewed in January.

### **Review Minutes from Last Meeting (Facilitator)**

The facilitator reviewed the minutes from the September 14, 2000 meeting. No changes were requested.

### **ITRD Status Report and PITT Path Forward (Arlene Tortoso)**

The 100-N Area ITRD report was distributed for review and comment. Scott Petersen took an action to provide a copy for Gordon Rogers.

DOE, EPA, and Ecology had a workshop in early November regarding carbon tetrachloride characterization in the 200 Area. They are not sure if they want to go forward with the PITT. They are trying to determine how to proceed from here. The outcome will be where to go in the short term and at what location. The Z-9 crib is specified in the interim ROD, but EPA wants to look in the area near PFP. They also discussed the Subpanel feedback on PITT, which concluded that there is not enough information to say that the Z-9 crib is the right place to look. It is

premature to do the PITT now. They plan to look elsewhere (e.g., a well near PFP). Two wells near the Z-9 crib will be deepened to enhance the vapor extraction system and provide more characterization data. A conference call will be held with the ITRD Program to discuss these outcomes.

### **Slant Borehole Results (Rob Yasek)**

Rob discussed the SX-108 slant borehole that was drilled last July in the 200-West Area. The borehole was 30 degrees off vertical, and 172 feet long (144 feet vertical). They used a specially constructed rig to minimize drag down, as well as specially constructed samplers and equipment. Sixteen samples were collected, and there were no surprises in the radiochemistry. It was hottest right under the tank, and they saw cesium all the way down to 144 feet. They got a lot of good characterization information where none was available before.

Dirk Dunning asked if the cesium concentrations correlated with the pH of the soil. Rob referred him to Jeff Serne. Mark Freshley added that the GW/VZ Integration Project is doing some reactive transport modeling work to further enhance their understanding of the vadose zone phenomena in the tank farms.

### **Update on SCFA Visit (Scott Petersen)**

SCFA representatives visited Hanford during the second week of October. They came to have a thorough discussion of our S&T needs and to suggest potential technologies that could be used to address them.

### **Endorsement of FY01 S&T Needs (Mike Truex)**

This year's S&T needs process was initiated in January 2000 with project interactions. There were five new needs identified this year: four related to the Groundwater/Vadose Zone Integration Project's risk element and one for uranium in groundwater. Draft S&T needs were distributed for review, and comments were received and incorporated. The Subgroup assumes that the S&T needs package has been endorsed.

Dirk Dunning proposed that next year the STCG should make sure we have identified all necessary and sufficient needs. There is a mechanism to do this through analysis. This topic should be included on the next Management Council agenda.

### **RL Integrated Science and Technology Plan (Gary McNair)**

Gary summarized recent activities on development of an RL Integrated Science and Technology Plan. This activity resulted from a discussion with Gerald Boyd last summer. We are trying to

understand how the project-level S&T needs tie to Hanford strategically to help determine if we are paying attention to the right things. Rich Holten and Debbie Trader have to report back to Gerald Boyd in the January timeframe. We are preparing value judgments on the S&T opportunities related to eleven major Site closure challenges. A draft will be ready in December, and will go to the STCG in early January for review and comment. It will go to Gerald Boyd in late January or early February. It is hard to prioritize the eleven high-level challenges on a strategic basis.

Terry Walton has been asked to present a similar status report on this activity to the other STCG Subgroups. Arlene said that the DOE projects should be involved in the effort. We should also tie in Dirk's point regarding whether the needs are necessary and sufficient. Dib Goswami requested a more detailed briefing at our next meeting.

Dirk Dunning asked if a vulnerability analysis is to be done. Are there back-up plans in case some baseline plans don't work? Gary was asked to bring this issue back to Tom Wood's team that is developing the S&T Plan.

### **Neutron Probe Detector (Bruce Ford)**

This concept was introduced about 12-18 months ago and is used as a very low-cost screening tool for characterization of soil sites prior to remediation. The technology is used in the remedial investigation phase of the RIFS process. They will be characterizing TRU soils later this fiscal year, doing spectral logging for deeper boreholes down to the groundwater in order to locate the TRU-contaminated areas. The technology piggybacks on the Small-Diameter Geophysical Logging System (SDGLS) technology that was discussed at the last Subgroup meeting.

The field demonstration done on September 15, 2000 was successful in screening to help narrow down the zones for further characterization. There is a new BHI report called *Proof-of-Principle Demonstration of a Passive Neutron Tool for Detection of TRU-Contaminated Soil at the 216-Z-1A Tile Field* (BHI-01436) that summarizes the results. Now they need to look for hot spots to do a more detailed analysis. Future plans are to evaluate the technology in other TRU-contaminated sites (e.g., 216-B-38 trench). The detector can be delivered by geoprobe or cone penetrometer.

### **Technology Funding for Hanford (Ken Kapsi)**

Ken distributed a table that was prepared by Jim Hanson showing all planned EM-50 technology funding for Hanford (both DOE-RL and DOE-ORP). He asked everyone to review it and bring their questions to the next meeting.

## **Status Report on Selected S&T Needs (Scott Petersen)**

Scott reviewed the status of the following two S&T needs:

- In Line Detection of Strontium-90 (RL-SS08)
- In Situ Detection of Strontium-90 (RL-SS09)

Both are third-priority needs. Concentrations of strontium-90 are currently measured by discrete sampling at the 100-N Area pump-and-treat location and analysis in field laboratories. In general, analytical laboratory work is highly accurate, but time delays and cost are considered to be drawbacks. In-line monitoring and detection could provide quicker results and lower this cost. In line detection could also optimize the clinoptilolite loading and change-out schedule. Arlene noted that we are still looking to the ITRD Program for options.

RL-SS09 is very similar to RL-SS08, but in situ (e.g., in the borehole) rather than in line. It could be used downhole to monitor the treatment process. It might also be good for long-term remote monitoring. The in situ technology might have a better cost/benefit ratio than the in line technology. MSE will be investigating the potential of using in situ detectors for strontium-90 during FY01-FY-02.

## **Action Items**

1. Provide a copy of the 100-N Area ITRD Project report for Gordon Rogers (Scott Petersen). Done.
2. Send Rob Yasek's vugraphs to the Subgroup electronically (Facilitator). Done.
3. Put Arnold Gritzke on distribution for the draft report on the Sitewide S&T Plan (Gary McNair).
4. Provide a longer presentation on the Sitewide S&T Plan for the Subgroup at the next meeting (Gary McNair).
5. Send Bruce Ford's vugraphs to the Subgroup electronically (Facilitator). Done.
6. Review Ken Kapsi's table on technology funding for Hanford and bring questions to the next meeting (everyone).
7. Send Bruce Ford's document to Dirk Dunning (Facilitator). Done.
8. Put Potential FY01 Technology Deployments on the next agenda (Facilitator). Done.

## **Attendees**

Roy Bauer (CHI)  
Bruce Ford (BHI)  
Bill Bonner (PNNL)  
Craig Cameron (EPA)  
Linda Fassbender (PNNL)  
Bryan Foley (DOE-RL)

Mark Freshley (PNNL)  
Judit German-Heins (Nez Perce Tribe)  
Dib Goswami (Ecology)  
Arnold Gritzke (DOE-HQ EM-52)  
Ron Jackson (BHI)  
Ken Kapsi (DOE-RL)  
Gary McNair (PNNL)  
Scott Petersen (BHI/TA)  
Wade Riggsbee (Yakama Nation)  
Gordon Rogers (HAB)  
Stan Sobczyk (Nez Perce Tribe)  
Dan Tano (DOE-RL)  
Arlene Tortoso (DOE-RL)  
Mike Truex (PNNL)  
Rick Wible (DOE-RL)  
Rob Yasek (DOE-ORP)

### **Next Meeting**

The next Subcon Subgroup meeting was scheduled for January 17, but it was later postponed until mid-February. Potential agenda items include:

- Integrated S&T Plan (90 minutes) (Gary McNair)
- 300-Area Remedial Technologies (John April)
- Potential FY01 Technology Deployments (Scott Petersen)
- Update on TIE Conference (Jim Hanson)
- ITRD Updates (Arlene Tortoso)